With respect to claim 1, claim 1 recites a heterogeneous ion exchange material which comprises an ion exchange resin incorporated within a binder, the binder comprising a thermoplastic elastomeric olefin comprising a polypropelyene continuous phase with an ethylene-propylene-diene monomer or ethylene-propylene-rubber rubber phase dispersed through the polypropylene continuous phase.

Terada discloses a heterogeneous ion exchange membrane comprising ion exchange resin incorporated within a binder polymer, wherein the binder polymer is a mixture of polyproplyne and ethylene-propylene rubber or ethylene-propylene-diene rubber. Therefore, unlike the heterogeneous ion exchange membrane as claimed in claim 1, rather than using polypropylene as the lone component in combination with a flexible rubber material to form a binder polymer in a heterogeneous ion exchange membrane, Terada employs polyethylene.

'Further, Terada teaches away from using polypropylene, by itself, in combination with a flexible rubber material, as part of a binder polymer of a heterogeneous ion exchange membrane. In particular, Terada singles out polyethylene as the only suitable candidate for combination, by itself, with a flexible rubber material to form a binder polymer of a heterogeneous ion exchange membrane. Moreover, when polypropylene is contemplated for use as part of the binder polymer, Terada teaches a person of ordinary skill to combine polypropylene with low density polyethylene, suggesting that polypropylene should not be used on its own in combination with a flexible rubber material to form a binder polymer of a heterogeneous ion exchange material (see column 3, lines 29 to 35).

With respect to Schwartz, the Examiner suggests that Schwartz provides evidence that both polyethylene and polypropylene are well known thermoplastics. This may be true. However, Schwartz does not suggest that polyethylene may be substituted for by polypropylene in any specific application, and particularly in binder polymers of heterogeneous ion exchange membranes.

With respect to Mahlman, the Examiner suggests that Mahlman discloses a polyphasic mixture of a polypropylene phase an a second amorphous phase, wherein the second amorphous phase can be "ethylene-propylene copolymer rubbers", wherein the ethylene-propylene copolymer rubbers can be "either copolymers of ethylene and propylene alone or a terpolymer of these olefins with a diolefin such as, eg. 1,5-hexadiene, or dicyclopentadiene" (see col. 5, lines 34-37). The Applicant submits that Mahlman merely identifies a technique for production of polypropylene-rubber mixtures, and cannot be taken to suggest the use of such a compound in a heterogeneous ion exchange material, and that a person of ordinary skill in the art would not be motivated to combine this teaching with Terada

For the foregoing reasons, the Applicant submits that claim 1 is patentably distinguishable from the cited references. Further, because claims 13 and 14 are directly dependent on claim 1, the Applicant further submits that claims 13 and 14 are also patentably distinguishable over the cited references.

Applicant respectfully requests entry of the amendments and reconsideration and favorable action in this case.

It is believed the application now complies with all formal requirements and is in condition for allowance. Such favourable consideration is earnestly solicited.

Respectfully submitted,

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